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1.0 INTRODUCTION

This technical report addresses potential impacts on public services and utilities from the proposed development of gravel extraction and processing operations in North Bend, Washington. Public services include police, fire, and emergency medical services. Utilities include electrical, telecommunications, natural gas, water supply, stormwater drainage, sanitary sewer, and solid waste services. Impacts will be qualitatively assessed for four project alternatives.

1.1 ALTERNATIVES

Development of a gravel extraction and processing operation has been proposed on land located east of North Bend, in unincorporated King County. Four alternatives have been defined for the land, which are basis for the analyses presented in this technical report:

- Alternative No. 1 – No Action.
- Alternative No. 2 – The Proposal involves development of two separate areas of land, referred to as the Lower Site and the Upper Site, for gravel extraction and processing. Operations would include the excavation, washing, crushing, sorting, and stockpiling of sand and gravel. Construction of concrete and asphalt batch plants in the Lower Site is planned in later stages of site development. Extraction will initially occur in the Lower Site, with material hauled from the site via Exit 34. Material from the Upper Site will be moved to the Lower Site using a 36- to 42-inch-wide conveyor.
- Alternative 2 – Lower Site Option. Cadman, Inc. has included this option to decrease the footprint of the Lower Site's gravel operations to keep the operations at least one-quarter mile from the nearest residence. The amount of gravel to be removed will be reduced accordingly.
- Alternative No. 3 – Gravel extracted from the Lower Site will be transported from the site via Exit 34. After extraction has been completed in the Lower Site, the Upper Site would be developed, with material hauled out via Exit 38 and SE Grouse Ridge Road. Aggregate processing would take place on the Upper Site. The concrete and asphalt batch facilities would be located at the Lower Site. This alternative does not include a conveyor line between the Lower and Upper Sites.
- Alternative 3 – Lower Site Option. Cadman, Inc. has included this option to decrease the footprint of the Lower Site's gravel operations to keep the operations at least one-quarter mile from the nearest residence. The amount of gravel to be removed will be reduced accordingly.
- Alternative 4 – Under this alternative, the Lower Site would not be developed. Extraction and aggregate processing will occur at the Grouse Ridge (Upper) Site, with processed materials hauled out via the SE Grouse Ridge Road. Onsite concrete and asphalt batch plants are not included in this alternative.

1.2 STUDY AREA

The gravel mining operation is proposed to take place on land east of North Bend, Washington, in unincorporated King County. The land is owned by Weyerhaeuser Company and leased to Cadman, Inc. Two separate sites would be leased for the proposed development. The Lower Site is north of I-90 and east of 468th Avenue SE. The Lower Site is about 115 acres. The Upper Site is north of I-90 on the Grouse Ridge plateau, and is about 578 acres. The sites are approximately 1 mile apart. The Upper Site is approximately 900 feet higher than the Lower Site.

The public utilities study area includes the two leased sites (approximately 693 acres) and the conveyor line connecting the sites. Figure 1-1 shows the geographic bounds of the area considered in this analysis. The public service and utility impacts discussed within this technical report are limited to that study area.

1.3 METHODOLOGY

The methodology used to evaluate impacts on public services and utilities by the proposed development and its alternatives is derived from the Washington State Environmental Policy Act Rules, WAC Chapter 197-22. Local utility providers and service agencies have been identified, contacted, and questioned with regard to their service capabilities and capacities.

To view this figure, click on the link below.

Figure 1-1 Public Utilities Analysis Study Area

2.0 AFFECTED ENVIRONMENT

2.1 PUBLIC SERVICES

2.1.1 Police

The North Bend Sheriff's Station is a substation of the King County Sheriff's Office, which provides police services throughout King County. The North Bend substation is at 201 N. Main Street in North Bend. It is one of four stations or substations in North King County. All officers are contracted through King County, and additional officers are available from other substations on an as-needed basis.

2.1.2 Fire and Emergency Medical Services

On January 1, 1999, the consolidation of several agencies created a new fire and emergency medical services agency called Eastside Fire & Rescue. The agencies joining in this consolidation effort included King County, Washington Fire Districts 10 and 38, and the Cities of Issaquah and North Bend.

Eastside Fire & Rescue currently serves a 210-square-mile area covering the local residents north of Maple Valley to Duvall, and eastward from Bellevue to Snoqualmie Pass. There are 16 substations inside this area, with a total of 250 employees. North Bend Substation 251 is at 122 W. Second Street and has a staff of 16 career firemen and 12 reserves. The substation is equipped with two fire engines, two aid cars, and one air-support vehicle.

Eastside Fire & Rescue provides a full range of services, including emergency medical services, fire prevention, public education, fire protection, and hazardous materials control. The department also coordinates CPR training classes several times each month and conducts blood pressure screening daily. The fire prevention program includes review of development proposals and construction plans; construction site inspections; and fire safety inspections in commercial, mercantile industrial, manufacturing, schools, and churches. Public educational programs include fire station tours for individual families and groups; and formal informational and educational presentations on a variety of subjects, such as home and business safety, CPR, and First Aid training and emergency preparedness.

Meadowbrook Clinic Urgent Care is the only emergency medical facility in the project area. It is in Snoqualmie and open from 7 a.m. to 10 p.m. daily. Emergencies that occur after hours, or are of a more serious nature can be handled either at Overlake Hospital in Bellevue (approximately 25 miles) or Valley Medical Center in Renton (approximately 30 miles).

2.2 UTILITY RESOURCES

2.2.1 Electrical

2.2.1.1 Electrical Supply to Study Area

Electrical power in the North Bend area is provided by two utility distributors: PSE and Tanner Electric Company. PSE provides electricity, natural gas, and energy-related services to more than 1 million customers in 11 counties within the state. PSE supplies approximately 95% of the power used in North

Bend. Tanner Electric Company is a smaller utility distributor, headquartered in North Bend, that supplies electricity to portions of King and Pierce Counties. Aboveground and underground power distribution lines service residences and businesses in the area. An existing underground power distribution line, owned by PSE, enters the Upper Site from a point near the Washington State Patrol Fire Training Academy and runs along SE Grouse Ridge Road. A Bonneville Power Administration (BPA) utility transmission line runs through the southern border of the Upper Site.

PSE or Tanner Electric Company could supply electrical energy for the proposed development. PSE operates the only existing substation in North Bend. This 25-megawatt (MW) substation is at the intersection of Thrasher and 120th in North Bend. PSE reports that the substation is operating at approximately 50% of capacity. The substation has 4 circuits and a single power transformer that reduce the incoming 115 kilovolt (kV) power to 12.5 kV. A step-up transformer at Seattle Truck Town East increases the power to 34.5 kV. The average household in North Bend uses approximately 40 kilowatt hours (kW h) of electricity per day (1,150 kW h per month). This equates to an electrical demand of 3 kW per each household. PSE complies with minimum industry standards for controlling voltage fluctuations in primary power supplies. PSE has established its own guidance (document 0600.4100 *Voltage Flicker on Secondary Systems*) for designing services for new customers. PSE has indicated that evaluations are also conducted during the design phase to verify that the voltage dip is less than 2.0%. PSE personnel did note that customers are generally responsible for installing power quality equipment such as surge arrestors, current-limiting reactors, circuit breakers, or disconnects for their onsite equipment.

Tanner Electric distributes power from PSE's substation through an 8 MW circuit. Tanner Electric is constructing a new 25 MW substation on Alm Way, west of PSE's existing substation. The new substation will supply power to a new school near Exit 34 and a proposed commercial office park west of Seattle Truck Town East. The new substation will be on-line by spring 2000.

2.2.1.2 Electrical Distribution Line

PSE has an underground power distribution line that enters the Upper Site from the Washington State Patrol Fire Training Academy and runs along SE Grouse Ridge Road. Figure 2-1 shows the route of the underground power distribution line (PSE, 1999). The power line is buried approximately 36 inches and changes from 3-phase to 1-phase as it leaves the Washington State Patrol Fire Training Academy and enters the Upper Site.

2.2.1.3 Electrical Transmission Line

A high voltage BPA electrical transmission line runs through the southern border of the Upper Site. The 345 kV line runs between Rocky Reach Dam and Maple Valley. There are eight power line towers within the Upper Site boundary as shown in Figure 2-1. The double circuit towers have conductors on only one side and are approximately 1,200 feet apart. The towers are numbered according to their distance from Rocky Reach Dam (e.g., Tower 101-1 is 101 miles from the Dam; Tower 101-2 is 101.25 miles from the Dam). Towers 101-3 to 103-2 are within the site limits.

2.2.2 Fuel

Most households in North Bend have gas service. The distribution systems are owned and operated by PSE. An existing 4-inch gas main is located along 468th Avenue SE and terminates at Seattle Truck Town East, near Exit 34. The gas line does not enter the boundaries of the Upper or Lower Site. Several reinforcement lines are planned by PSE over the next 2 to 3 years to keep pace with normal residential/commercial customer growth. When the reinforcements are complete, approximately 5,000 cubic feet per hour (cfh) is the maximum peak-hour load at low-pressure delivery that could be served at the end of the system.

Propane is commercially available in the area. Gasoline and diesel fuels are distributed via bulk suppliers and commercial service stations in the vicinity.

2.2.3 Telecommunications

AT&T operates a fiber optic cable line that runs through both the Lower and Upper Site of the study area (Figure 2-1). There are two separate 1-inch-diameter ducts buried at a depth of 4 feet. The second duct is used by Worldcom, a subsidiary of MCI. The fiber optic cable line has been in place for almost 10 years and is described as an extremely high traffic cable.

2.2.4 Water (Potable and Fire Protection), Sanitary Sewer, Stormwater

Water, sanitary sewer, and stormwater utility resources are provided to the City of North Bend by the North Bend Public Works department. However, these services will not reach the proposed Cadman, Inc. site.

The project sites are located in the Sallal Water District, which is a small, private organization, and as such is unable to provide water for Cadman, Inc.'s process facilities because of limited capacity; it can, however, provide domestic water needs, if requested. It can tap into existing water and sewer lines, run new piping to the site, and provide adequate service for basic portable water and sewer needs (bathroom facilities for a small office space).

2.2.5 Solid Waste

Meridian Valley Disposal, owned by Rebanco Connections, provides service to both commercial and residential facilities in North Bend. Meridian Valley has seven trucks available for general waste, wet waste, and cardboard recycling. Municipal-type solid wastes are hauled to either the Cedar Hills Landfill or to the Factoria Transfer Station. Meridian Valley also has two trucks available for construction waste, which is hauled to the Black River Transfer Station in Renton.

2.3 FUTURE GROWTH OF SERVICES

The North Bend area is experiencing rapid growth. New facilities are being planned and constructed in many parts of the community. Growth is also occurring in the immediate area of this project, including a proposed new school and a commercial office park near Seattle Truck Town East.

To view this figure, click on the link below.

Figure 2-1 Utility Lines Within Study Area

3.0 ENVIRONMENTAL IMPACTS

3.1 CONSTRUCTION IMPACTS

3.1.1 Alternative 1 – No Action

There are no construction impacts associated with the No Action Alternative.

3.1.2 Alternatives 2, 3, and 4

3.1.2.1 Public Services

Impacts on public services during construction are similar to those during operation of the facility. Traffic concerns are minimal during this phase, as there would be fewer trucks than during full facility operation.

3.1.2.2 Utility Resources

The most significant impact on utility resources during construction would be relocation of PSE's existing underground power distribution and AT&T/Worldcom's fiber optic cable. Meridian Valley Disposal indicated that it may need to provide an extra truck during construction of the project to handle construction wastes.

3.1.2.3 Lower Site Option (Alternatives 2 and 3)

Same as Alternatives 2 and 3.

3.2 OPERATION IMPACTS

3.2.1 Alternative 1 – No Action

There are no impacts associated with the No Action Alternative.

3.2.2 Alternative 2 – Proposal

3.2.2.1 Public Services

Alternative 2 would impact public services as follows:

Police

The proposed site is adjacent to a number of private residences. Local children have access to the woods near the proposed gravel operation. Fences and security controls may be necessary to prevent trespassing, accidents, and/or vandalism from occurring on site. Because of public interest in this project, the North Bend Sheriff's station has expressed concern over the possibility of protests and/or vandalism at the site. Increased traffic in North Bend and Snoqualmie (i.e., local trucks and workers coming to and from the site) is expected. The main streets of both towns are busy during peak travel times, and any increase in traffic may have a noticeable impact. (Specific accident statistics are included in the Transportation Technical

Report.) Overall, the Sheriff station's resources are believed to be adequate to accommodate additional growth beyond the proposed project, and additional officers are available on a temporary basis from King County, as needed.

Fire and Emergency Medical Services

Increased truck activity may create increased traffic congestion, vehicle accidents, and slower emergency response times. In addition, site operations create the potential for emergencies that the Eastside Fire District has not previously encountered, such as confined space entry, heavy equipment accidents, and rock slides. According to Battalion Chief Lee Soptich (East Side Fire and Rescue, 1999), these situations could be mitigated through purchase of additional emergency equipment. This is a moderate impact on existing services. Further discussion on traffic congestion is provided in the Transportation Technical Report.

3.2.2.2 Utility Resources

A brief discussion of the Proposal's possible utility impacts follows.

Electrical

The electrical load at the proposed site is approximately 3.6 megawatts (MW, 3600 kW). This load represents approximately 1,200 average houses (3 kW per house) in North Bend. This may seem a large load, but it only represents 15% of Puget Sound Energy is 25 MW substation, which is currently loaded at approximately 50%. The majority of the electrical load would be at the Lower Site, where processing of the material would occur. A processing plant including an asphalt batch plant, secondary and tertiary crushers, vertical sorting screens, washing equipment, dust control devices, and conveyors, would be constructed during Phase 3 of the Proposal. The 36- or 42-inch-wide conveyor line that transfers material to the Lower Site would begin incurring operational electrical load from Phase 4 through Phase 9 of the Proposal. Electrical load on the Upper Site would be limited to area lighting. The current peak load at the adjacent Washington State Patrol Fire Training Academy is 432 kW. An existing underground power line at the Upper Site would need to be removed or relocated when excavation begins in that area.

PSE's existing substation is currently capable of supplying the site's 3.6 MW demand. PSE indicated that a separate circuit could be used to supply Cadman, Inc. with electricity to power its equipment and facilities. A new distribution line would likely be constructed at the west entrance of the Lower Site, and tie into existing lines along SE 146th Street; existing power lines may be upgraded at that time. Other alternatives include new power lines from Tanner Electric's proposed substation or construction of onsite transformers to tap directly into the high voltage BPA transmission line that passes through the south end of the Lower and Upper Sites. If PSE is chosen as the power source, power quality issues such as flickering or dimming of power supplies to residences and businesses on the same power grid would need to be considered. PSE control standards require that none of its customers cause greater than a 2% voltage dip to any neighboring customers at the neighboring point of service. Mitigation to ensure these standards are met can be achieved through cooperation between Cadman, Inc. and the local power supplier that it chooses. Once the mitigation measures are met, impacts on the electrical energy supply would be low.

An existing PSE underground power line at the Upper Site would need to be removed or relocated before Phase 5, when excavation begins in that area. Starting in Phase 5, when excavation begins on the Upper Site, a 50-foot buffer around the base of each BPA transmission line tower may be required to ensure slope stability around the towers. Further discussion of electrical energy is included in the Energy Technical Report.

Fuel

Natural gas is the normal fuel for an asphalt batch plant's asphalt rotary dryer. However, the current gas distribution system cannot serve the estimated demand of 120,000 cfh. When this load is modeled on the current system, the entire North Bend system would experience outages (approximately 1,740 customers). This is not an option for PSE. The North Bend distribution system is fed by a line supply and regulator several miles from the proposed site. To feed the site through a supply line from this source, approximately 50,000 feet of steel supply line operating at 250 pounds per square inch (psi) would need to be installed. This installation would cost approximately $5.5 million, but routing, river crossings, and municipal requirements could greatly increase the cost (Puget Sound Energy, 1999).

As an alternative to natural gas for the asphalt batch plant, Cadman, Inc. has proposed using propane gas. A 10,000-gallon propane tank would be installed on site. The asphalt batch process would use 2 gallons of propane to fuel its asphalt rotary dryer for every 1 ton of asphalt produced (telephone conversation with Rod Shearer, Cadman, Inc, 7/19/99). It is estimated that 150,000 tons of asphalt would be produced on site each year, requiring 300,000 gallons of propane gas annually. Cadman, Inc. would comply with all applicable regulations regarding the storage and use of propane gas.

Diesel fuel is another option being investigated by Cadman, Inc., which has already proposed an aboveground 14,000-gallon fuel tank be stored on site for fueling vehicles. If diesel fuel is chosen to fuel the asphalt batch plant, another 15,000- to 20,000-gallon storage tank is necessary (Cadman, Inc., 1999). Impacts on diesel fuel and propane gas supplies in the region would be low.

Telecommunications

The AT&T/Worldcom fiber optic cable line would need to be relocated from the Lower Site prior to initial excavation activities during Phase 2, and from the Upper Site prior to Phase 5. AT&T/Worldcom has estimated that the cost of a service break along this line may be $100,000 per minute. In addition to relocating the line, telephone service would need to be supplied to the site. If completed correctly, there should be no impacts on these services.

Water

Cadman, Inc. currently plans to obtain water from groundwater sources beneath the Lower Site. Water would be obtained from a new well drilled into a deep aquifer. The availability and impact of the proposed water supply are contingent on a successful water rights application. An application has been submitted to the Washington State Department of Ecology (Ecology) for a term water right that would meet the water supply needs only for the duration of the project. A State Environmental Policy Act (SEPA) exception applies to water rights applications (up to 2,250 gpm groundwater); issues of resource adequacy and potential impact are therefore addressed as part of the application review process.

The anticipated lifetime average water demand for the project is approximately 70 gpm, although instantaneous use could reach as high as 300 gpm from the new water source. The water rights application includes a request for 127 acre-feet per year (79 gpm).

Cadman, Inc. plans to build a passive freshwater storage pond on the Lower Site. The storage pond would make enough water available instantaneously to meet peak demand conditions for the site. The pond would collect both water pumped from an onsite well, as well as rainwater and surface-water runoff, as allowed under a non-consumptive water right issued by Ecology. Cadman, Inc. would use this water as process water for activities such as onsite concrete batching, washing the gravel and trucks, and dust control for roads and extraction areas. The freshwater pond would also serve as the site's firewater supply. The minimum amount necessary has not been established at this time.

Cadman, Inc. has indicated that it will pump process water from the Lower Site to the Upper Site via an underground pipe system. Process water would be treated by the addition of a flocculant and discharged to settling ponds on the Western end of the Upper Site. Clarified water from the ponds would then be returned to the Lower Site by pipeline for reuse in the processing facilities. Process water demand varies by process, ranging from a few gallons per minute to 4,420 gpm for aggregate processing. This would require a pump house, a King County permit from Property Services for an easement, and a clearing and grading permit from the Department of Development and Environmental Services (DDES) of King County. A discussion of impacts is included in the Water Technical Report.

If Cadman, Inc. is unable to obtain a water right for the Lower Site, the Sallal Water District has indicated that it can extend services to both sites for potable water.

Sanitary Sewer

Cadman, Inc.'s sewage disposal would be limited to onsite generation by toilets, sinks, and showers in office spaces and maintenance facilities. Cadman, Inc. has indicated that it will probably not pursue sewer service. Instead, it plans to use an onsite septic tank and leachfield to handle sewage waste. As a secondary option, the Sallal Water District has sufficient system capacity to provide sewer service to the site.

Stormwater

Cadman, Inc. proposes to deal with its stormwater by routing it to onsite infiltration ponds and recovering runoff for use as process water and fire water supplies. The settling ponds would be designed in accordance with King County's Surface Water Design Manual. Cadman, Inc. would also comply with requirements for a National Pollution Discharge Elimination System (NPDES) Permit, as administered by Ecology.

Solid Waste

There are no apparent impacts associated with solid waste disposal. Meridian Valley Disposal indicates that it has sufficient capability to provide services for the project area.

3.2.2.3 Alternative 2 – Lower Site Option

Same as Alternative 2.

3.2.3 Alternative 3 – Lower and Upper Sites (Exit 34 and Exit 38)

3.2.3.1 Public Services

The public services impacts of Alternative 3 are similar to Alternative 2. Impacts on police, fire, and emergency medical services may be less, as truck traffic coming to and from the site would no longer be concentrated at Exit 34. Under Alternative 3, traffic would be routed to both Exit 34 and Exit 8 in different phases of development. Traffic impacts are discussed in the Traffic Technical Report.

3.2.3.2 Utility Resources

The utility resources impacts of Alternative 3 are similar to Alternative 2. The electrical utility impacts for this alternative would vary somewhat from Alternative 2, however, in that electrical power would be required at the Upper Site to power the aggregate processing operations. Aggregate processing would take place at the Upper Site at the completion of extraction from the Lower Site. Additional power would be required for area lighting and buildings. The concrete and asphalt batch plants would remain in operation at the Lower Site. Electrical service would need to be extended to the Upper Site from existing lines at the Lower Site or extended from the vicinity of the Washington State Patrol Fire Training Academy. It is expected that the overall operation electrical consumption for Alternative 3 would be similar to Alternative 2, with the exception of being distributed over the two excavation sites. As there would be no conveyor as part of Alternative 3, the total electrical demand is expected to be about 95% of Alternative 2's demand (3.6 MW), or about 3.4 MW. A discussion of electrical energy impacts is included in the Energy Technical Report. Natural gas, propane gas, and diesel fuel usage and impacts are the same for Alternative 3 as for Alternative 2.

Under Alternative 3, impacts on water, sanitary sewer, and solid waste services for development of the Lower Site are similar to those for Alternative 2. Cadman, Inc. plans to obtain a water supply for the Lower and Upper Sites from groundwater sources beneath the Lower Site. Cadman, Inc. plans to build a passive freshwater storage pond on the Lower Site. The storage pond would make enough water available instantaneously to meet peak demand conditions for the site. The pond would collect both water pumped from an onsite well, as well as rainwater and surface-water runoff, as allowed under a non-consumptive water right issued by Ecology. Onsite wastewater disposal (septic tank and leachfield) would be used at both the Lower and Upper Sites. A discussion of impacts is included in the Water and Environmental Health Technical Report.

3.2.3.3 Alternative 3 – Lower Site Option

Same as Alternative 3.

3.2.4 Alternative 4 – Upper Site Only (Exit 38)

3.2.4.1 Public Services

The public service impacts of Alternative 4 would be similar to Alternative 2. Impacts on police, fire, and emergency medical services may be less, as truck traffic coming to and from the site would no longer be concentrated at Exit 34. Under Alternative 4, traffic would be routed to Exit 38. Traffic impacts are

discussed in the Transportation Technical Report. By using only the Upper Site and routing trucks to Exit 38, a buffer exists between the site and surrounding neighborhoods, possibly limiting vandalism and trespassing. However, this option would also increase the response time for fire and emergency medical services to reach Cadman, Inc.'s facilities by 8 to 12 minutes. This represents a moderate impact on emergency response times.

3.2.4.2 Utility Resources

The utility resource requirements for this alternative would vary from Alternatives 2 and 3, as resources would be required for the Upper Site only. The Sallal Water District has indicated that potable water and sanitary sewer services can be extended to the Upper Site. However, as there are currently no water or sanitary sewer services at the Upper Site, the costs of these services would be higher than development within the Lower Site.

Since the Lower Site would not be developed under this alternative, the volume of aggregate excavated and processed in Alternative 4 would be approximately 5% less than Alternatives 2 and 3. There would be no conveyor line for this alternative, and process water would not be pumped up the ridge to the Upper Site. The concrete and asphalt batch plants are also not included in this alternative, further reducing operational demand. The total maximum electrical load for peak operations is estimated to be about 65% of Alternative 3, or about 2.2 MW. A discussion of electrical energy impacts is included in the Energy Technical Report.

Natural gas, propane gas, or diesel fuel usage would be less under this alternative because the asphalt batch plant would not be used. Some fuel would be used, however, to process gravel before it leaves the site.

The AT&T/Worldcom fiber optic cable line would need to be relocated from the Upper Site prior to site activity. In addition to relocating the line, telephone service would need to be supplied to the site. There should be no impacts on these services.

The utility resource requirements for this alternative would be different than Alternatives 2 and 3, as resources would be required for the Upper Site only. The well and water right would still be used on the Lower Site, and water would be pumped from the well to the Upper Site. The Sallal Water District has indicated that potable water and sewer services possibly can be extended to the Upper Site, if necessary. Cadman, Inc. has indicated that onsite wastewater disposal (septic tank and leachfield) would be used at the Upper Site.

Infiltration ponds would be built, as with the other alternatives. However, the ponds would be built on the Upper Site instead of the Lower Site. The ponds would serve to complement the well water as a source for process water, as well as firewater supplies. A discussion of impacts is included in the Water and Environmental Health Technical Report.

3.3 CUMULATIVE IMPACTS

Relocation of the underground power distribution line and fiber optic cable line may result in temporary disruption of existing services. New locations for these utilities have not been selected and may require further evaluation.

The gravel operation's proposed new wells and water detention ponds may have some moderate impacts on area groundwater. In turn, these could have secondary impacts on surface water and groundwater rights of existing entities. Further discussion of these impacts is included in the Water and Environmental Health Technical Report.

3.4 SUMMARY OF MITIGATION MEASURES

3.4.1 Alternatives 1, 2, 3, and 4

3.4.1.1 Public Services

- Mitigation measures for protection against vandalism and trespassing include providing fencing as appropriate to control access to the site and providing security services during non-working hours. This would minimize vandalism, trespassing, and the need for local police intervention.
- Specialized equipment for emergency medical situations that would be unique to the Upper Site, such as confined space entry, may need to be available at the site. Specialized medical equipment and training of staff may also be appropriate.

3.4.1.2 Utility Resources

- Electrical power use and sources appear adequate to serve the needs of the project. Supply and distribution systems should be designed to ensure that power quality remains unchanged for area consumers. Mitigation measures may include power quality controls for major electrically powered equipment, centralized power conditioning within the development area, or separate power feeds and power quality controls originating at the power substation. For Alternatives 2 and 3, it is recommended that the batch plant process use variable frequency drive motors to prevent a large voltage drop when the motors are turned on. In general, transformers should be sized to handle the voltage drop as well as the working load, and should be as close as possible to each service point. The wire gauge would also effect voltage, so it should be sized to maximize voltage to the motors. The close proximity of the proposed site to the existing PSE and future Tanner substations would minimize voltage fluctuations. If mitigation measures are included in the design, the voltage should drop not exceed the 2.0% standard.
- All applicable regulations regarding storage and use of natural gas, propane gas, and/or diesel fuel must be followed.
- Water-saving measures, such as truck wash-water recycling, would be incorporated into daily operations and the batch plant processes.
- The quality and availability of water for each site use would be fully evaluated during design, including development of sufficient water storage and recovery to meet all of the site and process needs.

3.4.2 Significant Unavoidable Adverse Impacts

No significant unavoidable adverse impacts on public services and utilities are expected.

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